

PRINCIPLES FOR FIREWATER MANAGEMENT

Background

This document has been drafted to assist in the determination of a planning application for

“Construction of a battery energy storage system, comprising battery containers, transformers, high voltage electrical substation and ancillary infrastructure including underground cabling, fencing, CCTV, internal access tracks and water storage tanks for a temporary period of 40 years”.

The planning application is being determined by Gravesham Borough Council under the reference number 2025/0730.

The battery technology to be utilised for the proposed development has not yet been decided. Once a decision has been made on the procurement of the batteries, a detailed design will be prepared after which a detailed drainage strategy and the battery safety management plan can be prepared appropriate for the battery technology selected. This is because the health, safety and environmental risks associated with utility scale batteries will vary depending on the chosen battery technology.

The proposed strategy to manage / control firewater runoff generated is for full containment. To achieve full containment of firewater runoff, specific control measures will be included in the detailed design of the Development Proposal after achieving planning consent. The detailed design will be informed by a drainage strategy. It is expected that like other planning applications for this type of development, a drainage strategy and Battery Safety Management Plan will be a condition of the planning consent requiring their approval by the local planning authority prior to commencement of the development. The Battery Safety Management Plan is developed in consultation with the local fire service.

Principles for the management of firewater

1. Firewater runoff will follow the onsite surface water drainage route via perimeter drains and subsurface pipework and will convey firewater runoff into a firewater storage pond.
2. The firewater storage pond will be lined to prevent discharge to the ground of potentially contaminated runoff.
3. An impermeable liner shall be fixed to the base and sides of the firewater storage pond and the hydrobrake chamber at the outlet will be fitted with a penstock valve and appropriately signposted as the firewater isolation valve. As the firewater storage pond will be lined, the piped outlet will be the only viable pathway for contaminated firewater to enter the water environment.
4. The location and testing of the firewater isolation valve will be incorporated into the site Operation and Maintenance (O&M) and Battery Safety Management Plan. In the event of a fire, the fire isolation valve will be closed by a nominated site person(s). The valve will also be configured to be remotely operated.

5. Arrangements will also be made with a local emergency waste disposal service who can provide a sealed mobile tanker to remove collected runoff quickly in the event there is also additional rainfall volume to accommodate, or the firefighting volume exceeds the maximum volume available.
6. Access for a mobile tanker would be achieved via the proposed site access tracks.
7. Any collected runoff will be tested to determine levels of contamination. This will help determine where the collected runoff should be disposed of, which may include reopening the outlet route if no contamination is present. Monitoring and testing would be undertaken at regular intervals to ensure no change to the water quality.
8. Perimeter access tracks are proposed to provide full access for firefighting vehicles as recommended in the National Fire Chiefs Council (NFCC) guidance document.
9. Following a fire incident, inspections of the firewater control measures will be inspected to undertaken to ensure integrity is maintained. If required, a Fire Remediation Plan will be prepared which may require continued closure of the fire isolation valve until fire damaged equipment has been removed from site and the drainage system components have been cleaned.
10. Only once the drainage system has been suitably tested will the fire isolation valve be re-opened and surface water runoff be allowed to discharge as normal, without the need for monitoring and testing.

The above summary should be considered provisional and a statement of commitment by the applicant to implement the principles of the strategy. The exact final arrangements and details would be written up at the detailed design stage and in the site Operations and Maintenance Manual and Battery Safety Management Plan.